

**Notice of Allowability**

Application No.

10/779,841

Examiner

Seyed Azarian

Applicant(s)

TAKEO, HIDEYA

Art Unit

2624

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/17/2007 and fax inquiry filed 8/29/2007.
2. ☒ The allowed claim(s) is/are 1,3-5 and 7-14 now renumbered as 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

### **Response to Amendment**

1. Based on applicant's amendment, filed 7/17/2007, see page 7 through 9 of the remarks, also telephone interview and fax inquiry filed on August 29, with respect to cancellation of claim 2 and 6, and amended claims 1, 3, 5, 7 and 9, have been fully considered and are persuasive, upon further consideration the double patenting rejection and 101 rejection of claim 9, also rejection of 103(a) for claims 1, 3-5 and 7-14, are hereby withdrawn.

The claims 1, 3-5 and 7-14 now renumbered as 1-12 are allowed.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it must be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicants Attorney (Mr. Kevin C. Kunzendorf, Reg No. 58,308), on August 29, 2007, without traverse.

**The amended claims 1, 3, 5, 7 and 9 as follows:**

**Cancel claims 2 and 6.**

Claim 1. (Currently Amended): An abnormal shadow detecting method comprising the steps of detecting primary prospective abnormal shadow regions in images of objects by

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different kinds of detecting processes, determining whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and

outputting as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow;

wherein whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of a combination of a plurality of characteristic values for the respective primary prospective abnormal shadow regions predetermined by the kinds of processes by which the respective primary prospective abnormal shadow regions are detected.

Claim 3. (Currently Amended) claim 3, line 1, delete -- claim 2 --, after phrase “ method as defined in”, and line 1, insert -- claim 1 -- after phrase “method as defined in”.

Claim 5. (Currently Amended): An abnormal shadow detecting system comprising a primary prospective region detecting means which detects primary prospective abnormal shadow regions in images of objects on the basis of image data representing the images of the objects by different kinds of detecting processes,

a determining means which determines whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and

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a final prospective abnormal shadow region outputting means which outputs as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow;

wherein whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of a combination of a plurality of characteristic values for the respective primary prospective abnormal shadow regions predetermined by the kinds of processes by which the respective primary prospective abnormal shadow regions are detected.

Claim 7. (Currently Amended) claim 7, line 1, delete -- claim 6 --, after phrase “ system as defined in”, and line 1, insert -- claim 5 -- after phrase “system as defined in”.

Claim 9. (Currently Amended): A computer-readable medium storing for causing a computer to execute an abnormal shadow detecting process comprising the steps of

detecting primary prospective abnormal shadow regions in images of objects by different kinds of detecting processes,

determining whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and

outputting as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow,

wherein whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of a combination of a plurality of

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characteristic values for the respective primary prospective abnormal shadow regions  
predetermined by the kinds of processes by which the respective primary prospective abnormal  
shadow regions are detected.

### **REASONS FOR ALLOWANCE**

3. The following is an examiner's statement of reasons for allowance.

This invention relates generally, to a method of and a system and a program for detecting an abnormal shadow in a radiation image, and more particularly to an improvement in detecting a prospective abnormal shadow.

Based on applicant's amendment, with respect to claim 1, representing claim 5 and 9 the closest prior art of record (Takeo) reference is directed to for detecting a prospective abnormal pattern in accordance with radiation images of the right and left mammal, but do not teach or suggest, among other things, " determining whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow by methods different from each other according to the kinds of processes by which the respective primary prospective abnormal shadow regions are detected, and outputting as final prospective abnormal shadow regions only primary prospective abnormal shadow regions which are determined to be of a desired abnormal shadow, wherein whether or not the respective primary prospective abnormal shadow regions are of a desired abnormal shadow is determined on the basis of a combination of a plurality of characteristic values for the respective primary prospective abnormal shadow regions predetermined by the kinds of processes by which the respective primary prospective abnormal shadow regions are detected.

These key features in combination with the other features of the claimed invention are neither taught nor suggested by (Takeo) prior art of record.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Contact Information**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (571) 272-7443. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Seyed Azarian*  
Patent Examiner  
Group Art Unit 2624  
September 4, 2007

*Seyed Azarian*